Application No. 10/077,601
Filed: February 15, 2002
TC Art Unit: 1756
Confirmation No.: 1545

AMENDMENT TO THE CLAIMS

1-6 (Cancelled)

7. (Currently Amended) A system for optically recording information in a storage medium comprising a first coherent light source that emits light having a red wavelength and a second light source that emits light having a blue wavelength that are optically coupled to a storage medium such that the medium is irradiated with coherent red light with a first polarization component emitted by the first coherent red light source ~~and~~ after being irradiated with light from ~~a~~ the second blue light source having a second polarization component, the storage medium comprising a polymer material having an optically activated molecular transition between a first geometric orientation when irradiated by light from the second light source and a second geometric orientation when irradiated by light from the first coherent light source to form a non-volatile medium, the red coherent light being operable to record information with the medium.

8. (Cancelled)

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9. (Previously Presented) The system of Claim 8 wherein the polymer material comprises a solid state thin film material having a holographic grating.

10. (Previously Presented) The system of Claim 8 wherein the polymer material comprises an azobenzene isomer material.

11. (Previously Presented) The system of Claim 8 wherein the polymer material is readable and writeable at the same wavelength.

12. (Currently Amended) A method for storing information with a non-volatile storage system, comprising the steps of

preilluminating a ~~non-volatile~~ storage medium with polarized light having a blue wavelength to alter a geometric orientation of molecules in the storage medium;

~~illuminating the medium at a first wavelength of light polarized in a first direction;~~

illuminating the medium at a ~~second~~ red wavelength of light polarized in a second direction that is different than the first direction to store information with ~~the~~ a resulting non-volatile medium; and

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reading the stored information with a red wavelength of light.

13. (Previously Presented) The method of Claim 12 wherein the preilluminating step comprises illuminating the medium with circularly polarized light.

14. (Currently Amended) The method of Claim 12 further comprising recording information in the medium by illuminating the medium with the ~~first~~ blue wavelength and the ~~second~~ red wavelength such that the first direction is orthogonal to the second direction.

15. (Previously Presented) The method of Claim 12 wherein the storage medium comprises a polymer material having azobenzene isomer material therein.

16-20 (Cancelled)

21. (Currently Amended) The method of Claim ~~16~~12 further comprising a process of poling to enhance at least second order, non-linear optics.

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22. (Cancelled)

23. (Previously Presented) A method for optically writing information to a medium comprising a polymer material having photoisometric material, comprising the steps of:

providing ~~a first~~ light having a first wavelength with a first polarization component that is directed onto the surface of the medium;

generating at least one of trans-cis isomerization and molecular reorientation of the photoisomer material;

providing ~~a second~~ light ~~with~~ having a second wavelength to record information in the medium, the second wavelength light having a second polarization component different from the first polarization component that is directed onto the surface of the medium;

forming a holographic grating; and

generating cis-trans isomerization such that a non-volatile orientation ~~grafting~~ graft is formed with the medium.

24. (Previously Presented) The method of Claim 23 wherein the photoisomeric material is an azobenzene isomer material.

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25. (Previously Presented) The method of Claim 23 wherein the first polarization component has a direction that is orthogonal to a direction of the second polarization component.

26. (Previously Presented) The method of Claim 23 wherein the first light is in a blue spectral region.

27. (Previously Presented) The method of Claim 23 wherein the second light is in a red spectral region.

28-32 (Cancelled)

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